REMARKS

Claim 35, line 3 has been amended to overcome the indefiniteness rejection.

Claims 26-35 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Midha *et al.* This rejection is respectfully traversed.

Initially, it is noted that the Examiner now admits that Midha *et al* does not expressly teach the employment of the herein claimed branched block copolymer (or the herein claimed thickeners or herein claimed viscosity). Thus, the threshold issue is whether the herein claimed branched block copolymer is *prima facie* obvious over Midha *et al.*

The Claimed Branched Block Copolymer Is Not Prima Facie Obvious

Midha *et al's* generic teaching of graft polymers appears at column 5, lines 14-25:

> Graft polymers made in accordance with the synthesis method herein are characterized by a hydrophilic or hydrophobic polymeric backbone with a plurality of hydrophobic or hydrophilic polymeric side chains covalently bonded to and pendant from the polymeric backbone, wherein the polymeric backbone represents from about 50% to about 99%, preferably from about 60% to about 98%, more preferably from about 75% to about 95%, by weight of the graft polymer, and the plurality of polymeric side chains represent from about 1% to about 50%, preferably from about 2% to about 40%, more preferably from about 5% to about 25%, by weight of the graft polymer.

As is apparent from the above quote, the definition of graft copolymers in Midha *et al.* at column 5, lines 14-25, includes, *inter alia*, the statement that the graft polymers "... *are characterized by a hydrophilic or hydrophobic polymeric backbone with a plurality of hydrophobic or hydrophilic polymeric side chains covalently bonded to and pendant from the polymeric backbone.*"

This definition includes the following groups of graft polymers:

(1) hydrophobic backbone + hydrophobic side chains;

(2) hydrophilic backbone + hydrophilic side chains;

(3) hydrophobic backbone + hydrophilic side chains;

(4) hydrophilic backbone + hydrophobic side chains;

(5) hydrophobic backbone + hydrophilic and hydrophobic side chains; and

(6) hydrophilic backbone + hydrophilic and hydrophobic side chains.

Midha *et al.* specifically discloses only the *first two* groups of graft copolymers, *i.e.*, "hydrophilic graft polymers" listed at col. 7, line 56 to col. 8, line 20, and "hydrophobic graft polymers" listed at col. 8, line 59 to col. 9, line 10. By contrast, only polymers of group (3) are claimed in the present application in combination with a first acrylic thickener and a second non-cellulosic thickener.

The Examiner fails to address applicant's arguments that the mere fact that a claimed subgenus is encompassed by a prior art genus is not sufficient by itself to establish a *prima facie* case of obviousness. *In re Baird*, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994) ("The fact that a claimed compound may be encompassed by a disclosed generic formula does not by itself render that compound obvious."); *In re Jones*, 21 USPQ2d 1941, 1943 (Fed. Cir. 1992). Thus, the Examiner has advanced no reasons to dispute the conclusion that Midha *et al's* teaching at column 5, lines 14-25 does not establish a *prima facie* case of obviousness concerning the herein claimed branched block copolymer.

The Examiner also has not disputed that size alone cannot support an obviousness rejection. See, *e.g.*, *In re Baird*, 29 USPQ2d at 1552 (observing that "it is not the mere number of compounds in this limited class which is significant here but, rather, the total circumstances involved"). Thus, even a prior art genus containing only a small number of members does not create a *per se* rule of obviousness. Some motivation to select the claimed subgenus must be taught by the prior art. See, *e.g.*, *In re Deuel*, 34 USPQ2d at 1215 ("No particular one of these DNAs can be obvious unless there is something in the prior art to lead to the particular DNA and indicate that it should be prepared."); *In re Baird*, 29 USPQ2d at 1552; *In re Bell*, 26 USPQ2d at 1531. No such motivation has been advanced by the Examiner.

The Examiner also has not addressed applicant's arguments that, in considering the size of the Midha *et al* genus at column 5, lines 14-25, one of ordinary skill in the art would know that the physico-chemical properties of the groups of polymers disclosed by Midha *et al* (*e.g.*, solubility in water or in non-polar solvents, thickening effect, electrostatic or hydrophobic interaction with other ingredients, intra- and interchain interactions, affinity for the keratinic cosmetic substrate) strongly depend on the respective fraction of hydrophilic/hydrophobic monomers or hydrophilic/hydrophobic blocks. This is confirmed by the teaching in Midha *et al.* that "[t]he graft polymers are especially *versatile* in that the polymeric backbone and the attached macromonomer grafts can have select or different chemical physical properties which

collectively provide the optimal formulation or performance profile...." (see column 1, lines 28-34).

In view of the state of the law pertinent to the present invention, and the known differences in physico-chemical properties of the polymers broadly disclosed by Midha *et al*, applicant clearly does not have to present "evidence to the contrary" (as alleged by the Examiner) to refute that one of ordinary skill in the art would have employed Midha *et al*'s monomers to form the specific graft polymers herein. Since there is no *prima facie* case of obviousness within the four corners of Midha *et al*, the burden is on the Examiner to establish such a *prima facie* case before applicant is required to rebut it.

To summarize the above, Midha *et al* clearly does not teach or suggest the herein claimed graft copolymer. Moreover, the subject matter of the present invention is *not* the use of the specific branched block copolymer for hair styling compositions. This use has already been described in WO 00/40628. The subject matter of the present invention is a special combination of at least two thickening agents, *i.e.*, an acrylic thickening agent and a non-cellulosic *co-thickener*, in cosmetic compositions containing the specific branched block copolymers described in WO 00/40628.

The Combination Of Acrylic And Non-Cellulosic Thickeners Is Not *Prima Facie* Obvious

The use of *at least two thickening agents* - one being an acrylic thickener and the other a non-cellulosic thickener - is neither disclosed nor suggested by Midha *et al*. The only hair styling gel (Example 17) contains a single acrylic thickener (Carbomer ®940). As already explained in previous responses, one of ordinary skill in the art would have had no reason to add a second polymer thickener (*e.g.*, guar gum) since 0.5 weight % of the acrylic thickener (Carbomer 940) gave satisfactory gelification of the hair styling gel containing the Graft copolymer 1.2 of Example 17 of Midha *et al*.

The Examiner attempts to counter the above conclusion by arguing that Midha *et al* "teaches the two thickening agents can be incorporated into the composition...." Applicant respectfully disagrees. Midha *et al* merely mentions thickening agents in a long list of optional ingredients without disclosing any advantage to using two thickening agents let alone the claimed combination of thickening agents.

The Instant Examples Demonstrate The Unobviousness Of The Present Invention

Composition C of the Example in the instant application shows that a satisfactory gelification could not be obtained when using an acrylic thickening polymer as the sole thickening agent in combination with the claimed fixing polymer. This demonstrates that the presence of a non-cellulosic thickener is essential when using the branched block copolymers of the present invention.

In addition, the comparative examples of the present application clearly show that the claimed thickener combination of an acrylic thickening polymer (b) and a **non-cellulosic** co-thickening polymer (c) imparts a considerably higher viscosity (2.540 Pa.s) to compositions containing the fixing polymer (a) than does a thickener combination containing an acrylic thickening polymer (b) and a **cellulosic** co-thickener (1.480 Pa.s). This demonstrates that the use of a non-cellulosic co-thickener such as guar gum is unobvious over the cited prior art.

The Examiner disputes the above conclusions on the basis that the broadest claims do not recite the amount of the components and the viscosity does not seem to be relevant. To the contrary, the comparative examples are clearly relevant irrespective of the scope of the claims and the specification clearly teaches that a viscosity of about 1.9 Pa.s is essential to the production of a satisfactory thickening effect (page 5, penultimate paragraph).

The "Consisting Essentially Of" Language Distinguishes The Prior Art

Claims 26 and 39 limit the fixing film forming polymer to one "consisting essentially of" the recited principal monomers. Midha *et al* does not teach a polymer consisting essentially of the recited principal monomers. This is especially true of the hydrophilic polymers individually disclosed at column 7, line 56 - column 8, line 19.

The Examiner suggests the "consisting essentially of" language should be read as -- comprising-- absent clear indication in the specification or claims of what the basic and novel characteristics actually are. There is such clear indication in the specification. More specifically, the present invention is directed to overcoming the problem that the claimed graft polymers fluidize most conventional thickening systems (page 1, ultimate paragraph). Thus, the basic and novel characteristics to which the present invention is directed are the fluidizing effect of the claimed graft polymers.

Claims 41-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Midha *et al* in view of Merck. This rejection is respectfully traversed.

Independent claims 41 and 45 limit the co-thickening agent to guar gum. By contrast, Midha *et al* only specifically discloses xanthan gum (column 16, lines 24-25).

Merck Adds Nothing Meaningful To Midha *et al*

Guar gum is, of course, a well known thickening agent. However, Merck does not supply the missing motivation to modify Midha *et al* to arrive at the present invention.

In view of the foregoing, early and favorable action is respectfully requested.

The Commissioner is hereby authorized to charge any fees due in connection with the present Amendment to Deposit Account 19-4293.

Respectfully submitted,

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